P·G·and E·Progress

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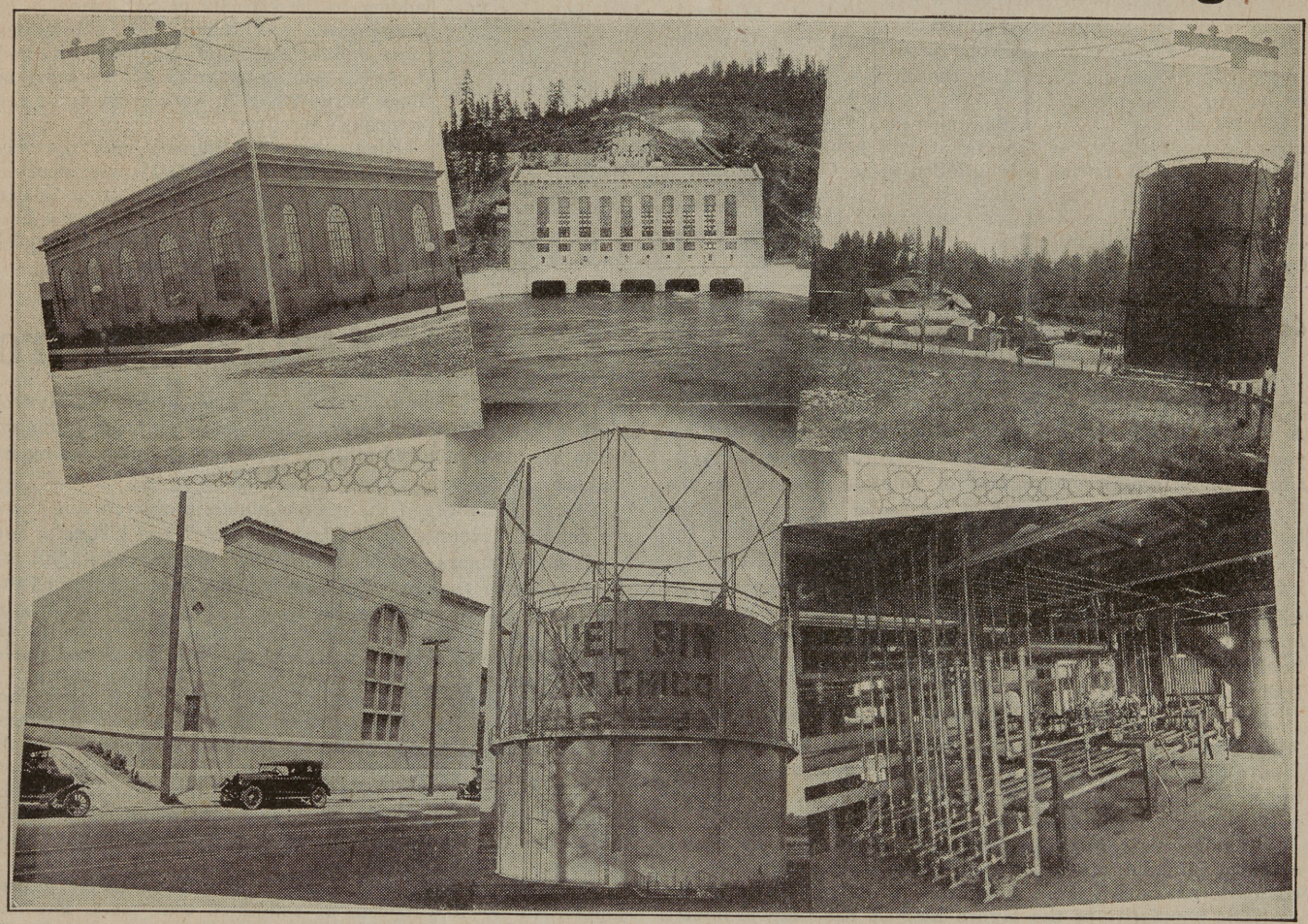
One Busy Year Ends and Another Begins



Some of the Past Year's Additions to the P. G. & E. System: Top row—Substation F, Berkeley; Pit No. 3, giant power plant of 108,000 horsepower capacity; gasholder at Grass Valley. Bottom row—Substation L, Oakland; gasholder at Chico; and the operating piping of the new generator installed in the Fresno gas plant.

P. G. & E. Keeps a Step Ahead of California's Growth

Another year of incessant building, replacing and improving has been added to the history of the Pacific Gas and Electric Company. Northern and Central California kept growing at a marvelous rate, and the P. G. and E. had to grow just a little bit faster so as to be ready for the extra demands of any community that might take a notion to run ahead of the procession.

In the year just ended the construction bills of the company totaled more than twenty-seven million dollars. This included the final work on Pit 3, one of the ten largest hydro-electric plants in the United States, which added its 108,000-horsepower capacity to the output of the P. G. and E. last July.

In the year just beginning the company will spend on construction twenty-five million dollars. This will include the dam and intake of Pit 4, fifth of the company's string of Pit-river plants, and the building and equipping of the new power plant of 36,000-horsepower capacity at Melones, on the Stanislaus, the generators of which will be run with water purchased from the Oakdale and South San Joaquin irrigation districts.

Growth of gas demand accounted for five and a half million dollars of the construction expenditure in 1925, and about the same amount will be expended in that branch of the company's business this year. Last year the number of gas consumers in-

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Busy Year Ends

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creased about 22,000, making the total 387,000. This demand made necessary many improvements, among them the building of big holders at Chico and Grass Valley, the installation of two new gas generators each of a daily capacity of five million cubic feet in the Potrero plant, in San Francisco; one of the same great capacity in the Oakland gas plant; generators of three and a half million cubic feet daily capacity in the Sacramento and Fresno plants, and one of two and a half million cubic feet daily capacity in the San Rafael plant.

Cost of these generators with equipment ranged from $150,000 for the one at San Rafael to $800,000 for the pair installed in the Potrero plant. Other large expenditures were: Half a million for extension of transmission and distribution lines in Oakland; a quarter of a million for the same purpose in Sacramento, and $200,000 in San Jose. Still other large items were $118,000 for a 36-inch gas line in San Francisco and $100,000 for new equipment for the gas plant of San Jose division.

The gas program for 1926 calls for many important improvements, additions and extensions, but the biggest job of the year will be the erection of a holder of 10,000,000 cubic feet daily capacity in Oakland. Unusual interest is added to this work, as the container will be of a new type called the waterless holder. The job, including cost of land, compressor plant and pipe lines, will run to a million dollars.

In the electric department construction in 1925 comprised many important works besides the completion of Pit 3 and the beginning of Pit 4. Substations were built in Cottonwood and Piedmont. Substations F in Berkeley, L in Oakland and L in San Francisco were completed. Substation D in Oakland was almost finished, and three other substations, the Contra Costa, near Antioch, H in Oakland and I in Elmhurst, reached the fifty per cent stage of construction.

The world's greatest condenser was installed in Vaca-Dixon substation. Volta power house was rebuilt to increase its capacity, connection was made with the lines of the California-Oregon Power Company, from which the P. G. and E. now takes current under a long-time contract, improvements were made at Newark and switching equipment installed to provide for the distribution of San Francisco's power crop under an agency contract; the work of adding to the capacity of Substation A in Sacramento was begun, new substations were built at Red Bluff, Hamilton City and Lincoln, and many miles of transmission lines were strung in various parts of the company's territory.

High-voltage transmission lines are costly to build. More than $900,000 was spent on the 25-mile double-circuit line from Cooley Landing to Martin substation at the San Francisco city limits, and $436,000 on the

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"Niagara in Politics": New Light on Ontario Hydro

PROFESSOR JAMES MAVOR, famous Canadian educator and author, who died a few months ago, spent the last years of his life studying the Ontario Hydro-Electric Commission. Being emeritus professor of political economy in the University of Toronto, located at the center of activity of the big government-owned power system, he, unlike most of the world, did not have to depend upon Hydro propaganda for his information. With the painstaking zeal of the scholar he searched out the facts, and now, after the tomb has closed about him, the result of his work is given to the world in the book he planned and for which he chose the title, "Niagara in Politics."

One does not have to go far in the book to be struck with the appropriateness of the title, for the history of the Hydro turns out to be a record of political maneuvers increasing in number and magnitude until the never-ceasing flood of politics looms larger than the flood pouring over Niagara.

Each move is given in detail, but every here and there comes a summing-up paragraph, putting salient facts in small compass. In one of those paragraphs Professor Mavor says:

"The popularity of the Hydro-Electric has been promoted by the ingenious device of giving domestic light service in the centers of population at abnormally low rates, while the rates for power are relatively high within the same areas. In the rural districts, where the population is scanty and the votes are distributed, the rates alike for domestic service and for power are abnormally high. Only the monopoly of supply which the Hydro has established renders such rates possible. There is no appeal and even where, as in some cases, gross injustice has been perpetrated, there is no redress, for by an act passed in the interests of the Hydro the law courts are closed against any suit that may be brought against it."

A supergovernment has been created, and no one, says the author, can criticize the Hydro with impunity. Thus:

"Its newspapers can be counted upon to suppress information unfavorable to it and to abuse anyone who ventures to raise his voice upon its imperfections; its advocates in the municipalities and in the local legislature denounce everybody who calls it in question, demanding his dismissal from any public office which he may occupy and pursuing him with all the ruthless invectives at their command. By these means the Hydro-Electric has acquired a stranglehold upon Ontario, plunging it into over two hundred millions of debt and embarrassing its finances and its credit."

Specific instances of the various abuses are given, and there are detailed accounts of "packed meetings" and claquers, and bands and banners and armies of hired propagandists, all for the purpose of rushing some municipality into support of the Hydro. Laws are made by the Hydro, violated by its officials, and changed to suit its purposes, making Hydro legislation a strange piece of patchwork, serving as both screen and shield for a tireless group of politicians.

Municipalities may not act without permission of the Hydro. The City Council of Niagara Falls, Ontario, in order to induce a manufacturing company to erect a plant offered to supply power at $10 a horsepower, but "the Hydro Commission imperatively required the council to charge the company $14 per horsepower." This, adds the author, occurred in October, 1916, when the Hydro was advertising itself as the sole means of getting "cheap power."

Particulars are given of cost estimates, of engineers' figures suppressed by the Hydro, of estimated cost made low and inviting until the municipalities were well into the venture and then rising in leaps until, in comparison, the original figure looked like a cipher. Politicians, not experts, run the Commission, but, thinks the author, the day of reckoning is near:

"Whatever the future may have in store for the Hydro, it encounters at this moment a sharp rate crisis. The rates for domestic use and even for street lighting must be revised upwards and the users of the future must be called upon to pay not merely a price which will cover the cost of the electricity they use but must also cover a portion of the cost of the electricity used by them or by their predecessors during the past few years."

In his final chapter the author mortally offends American admirers of the Ontario Hydro-Electric system by declaring it is not an experiment in "public ownership." His studies led him to this conclusion:

"It is really an attempt on the part of a small number of politicians to establish an industrial monopoly and to manage this monopoly in such a way as to keep themselves in power."

S. F. Plan Opposed

Farmers Argue Small Systems Mean High Rural Rates

Farmers of Northern and Central California are protesting against the proposal of the city of San Francisco to condemn all that part of the distributing systems of the Pacific Gas and Electric Company and the Great Western Power Company within the limits of that city. In this protest, which was filed with the State Railroad Commission by the California Farm Bureau Federation, it is contended that the breaking up of existing light and power systems would mean higher rates in the farming districts.

"Permanent prosperity," says the protest, "can never come if the economical gains of one group are merely the economical losses of another group."

The argument of the farmers, as set forth by J. J. Deuel, manager of the Federation, is in part as follows:

"The electric service of today requires coordination of widely separated generating plants, of water power and steam power connected with each other, not only connected to large cities, but having widespread interconnected networks covering the back country. The transmission lines and distribution networks of today already cross State boundaries, and in the future will no doubt cover whole groups of States.

"The business requires that the widely varying demands of many different classes of load shall be gathered together and fed from a common pool. In no other way can a reasonably uniform demand be put upon the generating plants and the transmission lines. It is axiomatic that without uniform loads electric service costs soon become prohibitive to most industries.

"Electric service in California is rendered by systems—not by cities; all elements are interdependent; each helps the others. San Francisco is proposing to condemn local properties and businesses, is proposing to take from consumers a part of that which now serves them.

"If the city of San Francisco should insist—as it seems to have the legal right to do—that electric service within the city is to be self-contained, is to be separated from such beginnings of interconnected, interstate systems as we now have, making difficult or impossible the advent of such future electric system as we would otherwise expect to get, the people of California have the right to demand that San Francisco find some means to give to all other residents of California, at its own expense, a full and perfect equivalent forever for all that those other citizens would have had if San Francisco had not, as respects electric service, separated itself from the remainder of the State of California.

"We regard the proposal involved in the present proceedings as a step backward. It is an effort to split apart, rather than consolidate. It is a policy that, on the average, means higher rates and less efficient service. The proposal is anti-social and against the interests of the State."

Attention is called to the loss in tax revenues which would follow condemnation. These losses, says the protest, would have to be made up by the remaining taxpayers and would be reflected in electric rates.

Vallejo Navy Yard Gets Gas Line

Turning the gas into the gas system installed by the P. G. and E. at the famous navy yard. The uniformed official at the valve is Rear Admiral Dayton.

MARE ISLAND now has a gas distributing system. It was installed by the Pacific Gas and Electric Company and went into service on December 11 when Rear Admiral Dayton, commandant at the island, turned the valve on the main running to the navy yard. The first gas from the new system heated rivets which were driven into the frame of the U. S. submarine S-8.

Prior to the turning of the valve the Vallejo Chamber of Commerce gave a celebration luncheon, which was attended by representatives of the Navy, officers of the P. G. and E. and city officials and other prominent citizens of Vallejo. President T. J. O'Hara of the Chamber of Commerce was toastmaster, and Mayor Draughan of Vallejo, Admiral Dayton and Vice-President R. E. Fisher of the P. G. and E. made addresses.

J. H. Gumz of the company's industrial sales department gave the gas demonstration that was the final feature of the celebration.

Vallejo is enthusiastic over the improvement, as it expects the navy yard to follow the lead of commercial manufacturers and use large quantities of gas for industrial purposes.

Electricity Saves Profanity On Nebraska Cattle Ranches

A ranch manager in Cherry county, Nebraska, has found electricity more effective than profanity in inducing wild steers to take necessary baths in tanks filled with antiseptic solution.

This Yankee genius, whose name is Currie, used to be a telephone manager, and got the germ of his idea from his old calling. First he rigged up a telephone generator, and set a boy to turning a crank that sent electric current shooting into the prodpole used on cattle that balked in the chute. When the steers did not move fast enough he contrived a better scheme by attaching the wires of the prod to the "hot shot" of a Ford. He tried it first on a beast that had resisted tail-twisting, lashes, brads and oaths, and at once the animal yielded to the subtle influence and marched straight ahead, even seeming to be in a hurry to get into the smelly tank. Now all Cherry county is adopting the plan, and the range output of cuss words has been greatly reduced.

Times Have Changed

When Dowager Queen Alexandra, who has just died, arrived in London sixty-two years ago, as the promised bride of the Prince of Wales, she found the city illuminated in her honor. Several days prior to the grand reception, the gas company sent out circulars, asking their customers to burn as little gas as possible during the week so as to insure a sufficient supply to light every gas-burner in London on the night of the celebration.

Today a single industry in America uses more gas than the entire city of London used when Alexandra was a girl.

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Dakotas, Sick of Socialism, Welcome Outside Capital

Bands blared, prominent citizens made speeches, fat beeves were barbecued and the whole countryside turned out. All this happened in Fargo, North Dakota, a couple of months ago, when Armour & Company took over the million-dollar co-operative meat-packing plant.

A similar celebration took place in Huron, South Dakota, and for the same reason. The only difference was that the Fargo plant was being reopened and the Huron plant was opening up for the first time.

Both plants were planned when the wave of State Socialism was sweeping over the Dakotas. The Fargo plant operated long enough to lose more than a million dollars, then lay idle for two and a half years. Machinery for the Huron venture was on the ground, but was never installed.

Such experiments sent outside capital scurrying to safer fields. As it went the Dakotas booed, but it wasn't long before the bubbles broke, and then the Dakotas wanted outside capital to come back. Industry was sick and only private initiative could make it well again. That is why Fargo and Huron rejoiced when the Armours opened the cooperative packing plant. Outside capital had come back to the Dakotas.

Burney Creek Fish Hatchery to Supply Shasta Streams

With a hatchery constantly replenishing the fish supply of streams for miles around, the Pit River country will continue to beckon vacationists to a fisherman's paradise. The site for a hatchery to be built by the Pacific Gas and Electric Company and donated to the State, has been selected by the State Fish and Game Commission, and the work of construction will soon begin.

Burney Creek, the pure, limpid waters of which rise from underground springs, was chosen as the ideal place for a hatchery. In announcing the selection, W. H. Shebley, in charge of the department of fish culture of the Fish and Game Commission, said:

"The best interests of the whole community can be served by establishing a hatchery on Burney Creek, where conditions are suitable and where large quantities of trout eggs can be collected annually in the tributaries of Lake Britton."

From a hatchery so located, it is pointed out, large trucks can be used in the work of distribution and all the streams throughout Shasta county can be stocked with fish.

The site chosen is near the line of the Burney Falls State Park, not far from one of California's most beautiful waterfalls.

Sell Muscle Shoals Is Advice of President to Congress

President Coolidge devoted two paragraphs of his first message to the new Congress to Muscle Shoals. He said:

"The Muscle Shoals problem seems to me to have assumed a place out of all proportion to its real importance. It probably does not represent in market value much more than a first-class battleship, yet it has been discussed in Congress over a period of years and for months at a time.

"It ought to be developed for the production of nitrates primarily, and incidentally for power purposes. This would serve defensive, agricultural and industrial purposes. I am in favor of disposing of this property to meet those purposes."

Then followed a recommendation for a special Congressional committee to receive bids and make a report on which Congress may base an act selling Muscle Shoals to the highest bidder who will carry out the purposes set forth by the President.

Taxes Amount to Capital Levy, Says State Controller Riley

Tax tolls in California are now so high they may fairly be called "a capital levy," according to State Controller Riley. Some of the facts on which he bases this opinion were given in the following Associated Press dispatch, which appeared in the San Francisco Call:

"San Jose, December 8.—(AP)—Tax burdens in California have increased to the point where they constitute 'an annual tax levy without regard to earning power,' State Controller Ray L. Riley told the Farmers' Educational and Cooperative Union of America today.

"He cited the fact that during the past year approximately half a billion dollars of public money was required to pay the cost of State, city and county government, or about twice as much as the tax burden of 1920. He compared this with a 64 per cent increase in assessed valuations.

" 'The result,' he said, 'has been a tremendous increase in tax sales to the State of California in the last five years.'

"Riley added that of all interests involved the farmer had most difficulty absorbing the increased burden."

"The home of the future will lay all of its tiresome, routine burden on the shoulders of electric machines, freeing mothers for their real work, which is motherhood. The mothers of the future will live to a good old age and keep their youth and good looks to the end."

—Bruce Barton.

Off the Circuit

"Can I catch the Leipzig train?"

"It depends on how fast you can run. It left five minutes ago."—Fliegende Blaetter (Munich).

Mistress—"Hilda, what do we need for dinner?"

Hilda—"Please, ma'am, I've tripped over the rug, and we need a new set of dishes."—Progressive Grocer.

Young Lady (after violent dance)—"There! My heel's gone. That's done for me for this evening."

Youth—"Oh, bother. Don't you carry spare parts?"—Punch.

"See here," said the angry visitor to the reporter, "what do you mean by inserting the derisive expression 'Applesauce' in parentheses in my speech?"

"'Applesauce'? Great Scott, man, I wrote 'Applause.'"—Boston Transcript.

Judge—"I have listened very carefully to you, Mr. Brown, for an hour, but I am none the wiser."

Counsel (politely)—"I hardly expected your honor to be, but I thought you might be better informed." — The Humorist (London).

Teacher—"Is it true that heat expands bodies and cold contracts them?"

Pupil—"Yes, sir."

Teacher—"Kindly give us a demonstration of this truth."

Pupil—"For example, well, days are longer in summer and shorter in winter."—Electra (Mexico City).

Senator Dennett Finds Flaw in Public Ownership Methods

State Senator L. L. Dennett of Modesto, who is attorney for several irrigation districts, thinks the details of management of irrigation districts should be left to an expert, and not to a board of directors. In a statement to that effect, published in the Modesto News-Herald, he said, in part:

"No private enterprise that ever existed was guilty of the folly of expecting a more or less changeable board of directors to do other than see that its employees planned and executed successfully the business of the concern. Until we learn this lesson we must expect public ownership to be more or less of a failure."

Riveting Hammer Doomed

Din of riveting hammers may soon be as unusual as the creak of the old-time wagon. Electric welding, it is predicted, will soon replace riveting wherever structural steel is used.

Do You Know?

Do you know—

That 14,000,000 American homes are wired for electricity?

J. Olin Howe, writing in Success Magazine, estimates that at present the comforts and conveniences of electricity now reach 75,000,000 people, living in 20,000 American communities.

Do you know—

That the United States uses 50 per cent of the world's incandescent lamps?

Between the year 1880 and the year just past the population of the United States increased 119 per cent, but while the population was doubling the number of incandescent lamps rose from 25,000 to more than 400,000,000.

Do you know—

That while the general average of prices was rising the price of incandescent lights was falling?

The dollar of 1914 has shrunk from 100 cents to 58 cents in purchasing power, but the average price of Mazda lamps today is 42 per cent less than in 1914. As for electricity itself, it costs no more than it did before the World War. Other necessities average 65 per cent higher.

Exhibit and Demonstration Win Two Letters of Thanks

Among recent letters of thanks to the company was one from Christine Abbott, home demonstration agent of the Davis farm branch of the University of California. Writing to the Sacramento division office she said:

"A letter of thanks for your assistance in developing a home-lighting exhibit at the county home department fair has been somewhat delayed. There was a great deal of interest shown in this exhibit. I thank you for your cooperation and interest."

Another letter, addressed to the San Francisco office, referred to an electric range demonstration in which Mrs. Anna S. Peterson, company home service representative, took part. It read:

"The Business Girls' Round Table desires to express its appreciation of the demonstration which you made possible for us. We found the demonstration not only pleasant, but exceedingly instructive and practical. Much of this was due to Mrs. Peterson's participation in it.

"This is an independent undenominational organization of business and professional women with a membership of nearly one hundred. The P. G. and E. has added them, one and all, to its long list of friends.

"ELMA M. MANSFIELD."

On the Job With the "Old Timers"

Louis Bottjer, He's the Man With the Tireless Shovel

Louis Bottjer and Oroville grew up together. The town had the start on him, but he has been there or thereabouts close to sixty years. Now as he digs gas trenches through olive orchards people point him out and say: "There's a man who knew Oroville when there wasn't an olive in town."

Not far from Oroville lies the little that is left of Thompson's Flat. It used to be a mining camp with half a thousand population. Louis was born there, and when he got through school he naturally took hold of a shovel and got busy.

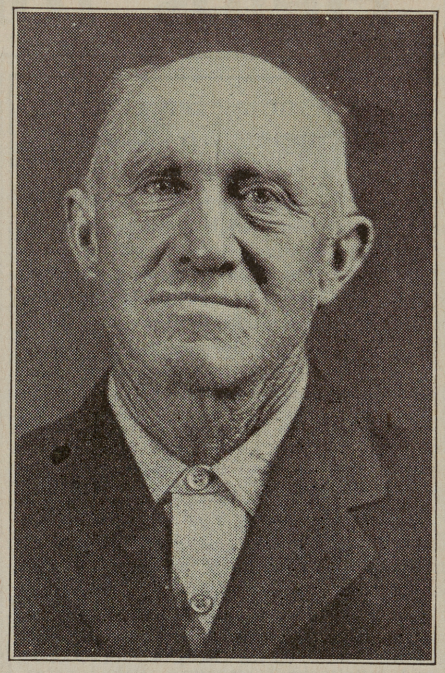
Ever since then Louis has done hard work. He likes it and wants nothing else. A bossing job has no appeal to him. So busy has he been with hard work that he has never found time to get married.

First it was the Big Bend tunnel that needed his strong back and willing shovel. Then he did rough work on the diversion dam by which the Golden Feather Mining Company hoped to uncover boundless riches in the bed of the Feather river, and was disappointed.

Next Louis trudged over to the Miocene hydraulic mine, and put in five years picking pipe clay and packing out boulders, and shoveling, of course, whenever there was any shoveling to do. Then for two years he made the dirt fly at the Butterfly gravel mine. "It was pick and shovel and blasting," he says, and adds, "but mostly shovel."

All this time he was close enough to Oroville to run into town occasionally. One day he decided he would try city life. So he got himself a job with the Oroville Water Company digging ditch and helping lay pipe. It wasn't steady, just off and on. He wanted his hard work steady, and he got it by signing up with the Oro Water, Light and Power Company. All branches of the business found him useful. As he explains it, "Sometimes it was on water, digging ditch; sometimes on gas, digging trench; sometimes on power, digging pole holes."

Year after year he swung the pick and plied the shovel. In 1917 the Pacific Gas and Electric Company took hold, and found Louis still carrying on. He liked the change because there was more hard work than ever. The new company practically rebuilt both the electric and the gas systems of Oroville, and with improvements going on all the time Louis has found a perfect heaven of hard work; no end of gas and water services to lay, no end of pole holes to be dug, no end of poles to be raised, and no end of miles of wire to be strung.



Louis J. Bottjer.

Today if you look up Louis you will probably find him in a gas trench hard at work and perfectly contented. Ask him if anything has ever happened to him except work, and he will answer, "Not that I know of." Yet Louis has stuck to his tasks in storm and flood, even in that hard winter when the waters came roaring down from the nearby mountains and made out-door workers think they were lost at sea.

More than that, Louis is one of the builders of a happy and prosperous community. In his humble way he has had something to do with the growth that has made Oroville an up-to-date city with 7,000 people within its borders and in its suburbs, a marvelous change from the little unpaved town of a few hundred to which Louis turned longing eyes when he was just a boy of Thompson's Flat and had no idea of how much hard work there is in the world.

Soviet Turns to Water Power

Soviet Russia, through its economic council, has engaged American engineers to investigate the possibilities of hydro-electrification of the River Dnieper. The preliminary survey will cost about half a million dollars, but the projects in mind, if found feasible, will require an outlay of one hundred millions of dollars or more. Management and operation, it can be safely said, will not be left to a soldiers' and sailors' council, nor will it be financed by a printing press turning out worthless rubles.

Helps for the Homemaker

Prize-Winning Suggestions on Bringing Up Children

MAKE your house a convenient place in which to take care of children, suggest this month's prize winners. The ideas combine comfort in both sickness and health. Here are the winning contributions:

Gas Equipment—$10 Prize—Taking care of convalescents from the inevitable sicknesses of children which involve quarantine and a long period of "crankiness" without serious illness can be made a much easier matter for all concerned if they are allowed to have a part in the preparation of the food. A sleeping porch converted into a hospital ward, with a two-burner gas plate installed in a neighboring room, a set of doll's aluminum kettles and a small portable oven solved the problem for two young chicken-pox patients. Fruit, broths and vegetables were easy. So, too, were eggs baked in little ramekins, loaves of bran or corn bread baked in the tiny aluminum pan and infinitesimal biscuits. Baked potatoes prepared by the patients themselves were eaten with a heartier appetitie. Let the children scoop out the centers of medium sized potatoes, insert a strip of bacon, and bake. The core may not be even, but bacon will bend. This arrangement solved the problem of tempting fickle appetities and provided an occupation for the convalescent period as well. —Mary L. Varela, 52 Hamilton Place, Oakland.

Electrical Equipment—$10 Prize—A sunny back bedroom, well heated by the installation of a heater, properly vented and provided with a metal guard, and especially wired with a separate circuit for the use of electric toys, has proved a godsend for the two small boys of our household and for the family as well. The special electric circuit with two wall plugs to which motors and toys may be connected was a matter of small expense, and has saved many a fuse formerly wrecked by experiments conducted on the family lighting circuit. Electric trains and "clutter" no longer disturb the front of the house, while the boys are both safe and warm in their new quarters. So comfortable is this room that the head of the house and myself often sneak into it in the evenings and help the boys run their trains and motors.—Mrs. T. A. Rymer, 93 Parkside Drive, Berkeley.

Tot Tends Gas Stove

Finding that my three-year-old daughter was fascinated by the pretty white spigots on the gas range and wanted to turn them on as I do, I allowed her to turn off each burner as the cooking was done. Now that she has the duty of turning off each white handle when I say "Ready!" there is no longer any temptation to handle them between times. Pride in her responsibility as stove tender keeps her content.—Mrs. W. S. Casselberry, 922 Tulare Ave., Berkeley.

Children Can Help Mother In Electrically Operated Home

The mother who has the advantage of electric equipment in her home has missed one of its best features if she fails to teach the children how to help with the household tasks. The sense of bearing a share in the household activities is good for them—and the work can be made fun with a little direction on mother's part. Mrs. E. M. Cockrell, 1152 Jackson St., San Francisco, has made the use of the electric toaster in the morning a reward of merit for early rising, while Mrs. Bernice G. Klein, 1285 21st Ave., San Francisco, has made a game of cleaning rugs by naming each rug for a state which must be visited by the vacuum cleaner. As a reward she suggests French toast made on the electric waffle iron.

Nickels Saved on Light and Gas Buy New Equipment

Decide how much you are willing to spend for gas and electricity each month, suggests Mrs. E. S. Young, 3816 H St., Sacramento, and then make it a matter of contest between the children of the family to see how much they can economize by turning off lights when not needed and turning down flames under boiling water to bring the bill under this amount. It is agreed beforehand that all saved on the bill will be applied to the purchase of some new gas or electric convenience for the household. In this way the children learn household care and also feel a greater pride of proprietorship when the article is finally purchased.

Kitchen Clothes Line for Drying Out Baby's Clothes

A kitchen clothes rack which is suspended near the ceiling in the kitchen and may be lowered at will is a great convenience when there is a small baby in the house and clothes must be dried over night in damp weather. Four one inch sticks are used for the rack, being placed about one foot apart with a crossbar at their ends to which the supporting rope is attached. This is run over conveniently placed pulleys and fastened by means of a ring slipped over a screw in the wall, so that the rack may be lowered for putting on or taking off clothes and then raised again to ceiling height. This carries the clothes up to the warmer air at the top of the room and also leaves the floor space free, so that it is possible to cross the room in comfort.—Lillie Ruggles Steiner, 2736 Prince St., Berkeley.

Two $10 Prizes for Ideas on Spring House-Cleaning

HOW do you utilize your gas and electric equipment to make easier the problems of spring house cleaning? Two $10 prizes are offered next time for the best ideas submitted, one for the best and most original use of gas equipment in solving the problems of cleanliness and one for ideas as to the use of electric equipment in house cleaning. Send in your replies promptly. Winning contributions will be printed in the March issue. Results of the contest on the Odd Task about the home will appear in the February issue.

Address Helps for Homemakers Editor, P. G. & E. Progress, 245 Market street, San Francisco.

Electrical Entertainment Adds to Delight of Children

Let the children cover a screen with white tissue paper, which can be stood in front of the electric heater on winter evenings. Then let them make cutout pictures of colored paper to pin on the screen. This will provide entertainment as well as warmth, the only caution being not to allow the screen to approach too closely to the heat.—Mrs. Elaine Little, Route 2, Gridley.

An electric photo projector which attaches to any electric light socket is a never ending source of enjoyment in the home of Yuki Lei, who lives in Oakland. Snapshots saved from summer and other trips are reviewed at family gatherings by throwing them on the screen, which in this case is a sheet fastened on the wall, although a white window shade or blank wall space will do just as well.

Try substituting an electric lamp for the oil lamp which comes with the children's magic lantern set, says Mrs. E. J. Foster, P. O. Box 271, Sebastopol. The light is better and certainly safer for the children to handle.

Here's a Nursery Hint

By providing electric convenience outlets in the nursery, mother can bring her electric iron or electric sewing machine to that sunny room occasionally and keep an eye on the children while she does her work. An electric grill will also provide nursery treats, without disturbing kitchen arrangements. — Anna B. Guhl, 3121 Bona St., Oakland.

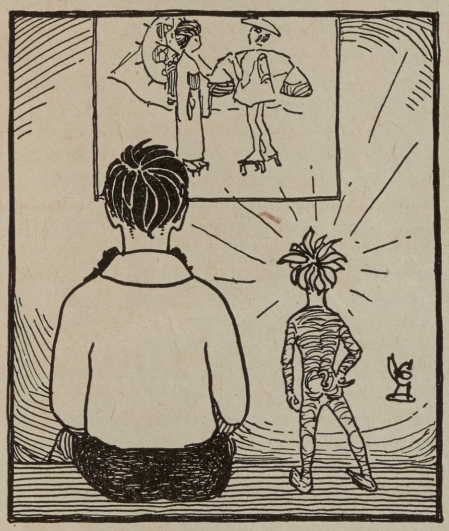
The Electrical Brownie

The Magic Box

"I HAVE here a magic box," said Johnny Kilowatt, "which is just as wonderful as that famous crystal they are always talking about in fairy stories. All you need to do is to press a button and turn a little wheel and—presto! you can see just what is going on in other parts of the world. Here, for instance, is what happened in Japan a month ago. And here we are in England, watching the burial of a queen."

"Why those are moving pictures," cried Bobby, "they're not magic. I know how they are made."

"Poof!" laughed Johnny Kilowatt, "that doesn't mean anything. Of course there's



Peeking Into the Past.

an explanation of how it's done. There's an explanation for everything. When we don't know what it is we call it a miracle, but when we know just a little bit about it we think it is just ordinary and don't pay any more attention. And if you come to think about it, you'll find that it is just as mysterious now that you know that my friends the chemical brownies make the pictures on the films and that I throw them on the screen as it would be if one of those useless creatures with wings and a wand had done the whole thing. Isn't it?"

"Yes," admitted Bobby. "Now let's see the rest of the pictures."

So they did.

Toasted Goodies

When the children toast marshmallows before the gas heater, let them dip the hot candies into a plate of shredded cocoanut before browning. Cubes of cake or bread may also be impaled on old umbrella ribs and toasted in this manner.—Adah Freese, Box 1561, San Francisco.

Busy Year Ends

(Continued from Page 2)

42-mile line from Delta to Shasta substation. Work was started on the 220,000-volt line from Vaca-Dixon to Contra Costa substation. This double circuit line, 15 miles long and costing nearly a million dollars, will be completed in May, 1926.

Work planned and yet to be done make certain that 1926 will be a memorable year in the company's history. Among the big jobs and the amounts to be spent are:

Pit 4 dam and intake, $1,740,000 of the total of $15,000,000 which the completed plant will cost.

Melones power house and tunnel, $2,523,000.

Service improvements in San Jose and vicinity, $750,000.

Manteca-Salinas transmission line, $598,000.

Continuation of work of raising Fordyce dam, $400,000.

Manteca substation, $295,000.

Drum canal and Spaulding tunnel, $200,000.

Hayward substation, $193,000.

Redwood City substation, $175,000.

San Mateo substation, $165,000.

Salinas substation, $128,000:

Every one of the twelve territorial divisions will be the scene of important construction work. Just to mention one, improvements planned for Sacramento division total more than three-quarters of a million dollars.

All sections are going ahead fast, and the P. G. and E. must see to it that every demand for increased service is promptly met. The future of California depends on its power development. What is more than enough for one year will be too little for the next. So the P. G. and E., keeping a step in advance, prepares for the days to come. It grows as California grows, and the sums that it spends on improving and extending its service are an important factor in speeding the State's advance.

Steams Dried Fruit in Oven

Try steaming dried figs in your oven, then placing them in a dish with a little sugar. The children will find them as good as candy.

Boil prunes, raisins, dried figs, almonds, dates and walnuts together. This may be served as a conserve, or run through the meat chopper and shaped into balls, which are then dusted with powdered sugar. It is not alone the children who will enjoy this dainty.—Mrs. Avak Avakian, 2422 Tyler St., Fresno.

Mrs. D. R. Withers, Home Economist of the Pacific Gas and Electric Company, conducts a bi-weekly question bureau for San Francisco housewives at 445 Sutter street. Bureau hours are from 10 to 11:30 a. m. Her services are free.

Buys Gas System

P. G. & E. to Take Over Plant of Sacramento Company

Sacramento is to have a unified gas system, with one distributor instead of two. The Sacramento Gas Company has been purchased by the Pacific Gas and Electric Company, and only the approval of the State Railroad Commission is necessary to assure the carrying out of plans which will save P. G. and E. gas consumers in the Capital City $30,000 a year and make gas service to everybody in Sacramento better than ever.

The purchased company has been distributing gas in both Sacramento and Lodi, supplying customers partly from gas plants and partly from natural gas wells. In Sacramento it has 109 miles of distribution lines and 8500 consumers.

Frank A. Leach, Jr., vice-president and general manager of the Pacific Gas and Electric Company, in announcing the purchase, said:

"We intend to put the rates of the Sacramento company into effect throughout the city and save our gas consumers in Sacramento $30,000 a year. This will be the third reduction in gas rates made by the P. G. and E. in Sacramento in the last three months. The first was made October 22, when the Railroad Commission cut rates 6 cents per 1000 cubic feet, making a saving of $54,000 a year to Sacramento gas consumers. The second reduction was made November 26, when 4 cents per thousand was cut from the rates and $36,000 saved to the same consumers. In all, the three reductions mean a saving of $120,000 a year to our gas customers in the Capital City."

Uniting of the plants of the two companies will result in uniform service and a uniform quality of gas, and enable the P. G. and E. to meet all gas demands of one of the fastest-growing cities in its territory.

New York Uses More Electric Power Than 12 Foreign Lands

"Our European friends," said Arthur Brisbane in a recent article in the Hearst newspapers, "read with amazement that a young American, Arthur S. Williams, boss of the electric light industry, sells in New York City more electricity than is used in twelve European countries with a combined population of 109,000,000.

"The twelve countries that use less electricity than New York City alone are Greece, Denmark, Latvia, Jugo-Slavia, Poland, Hungary, Norway, Rumania, Turkey, Switzerland, Sweden and the Netherlands. New York uses five billion kilowatt hours per year."

Foreman—"Say, you, that man is doing twice as much as you are."

"Sure! I keep tellin' the poor sap, but you can't learn him nothin'."—Judge.

Leopold Justi,
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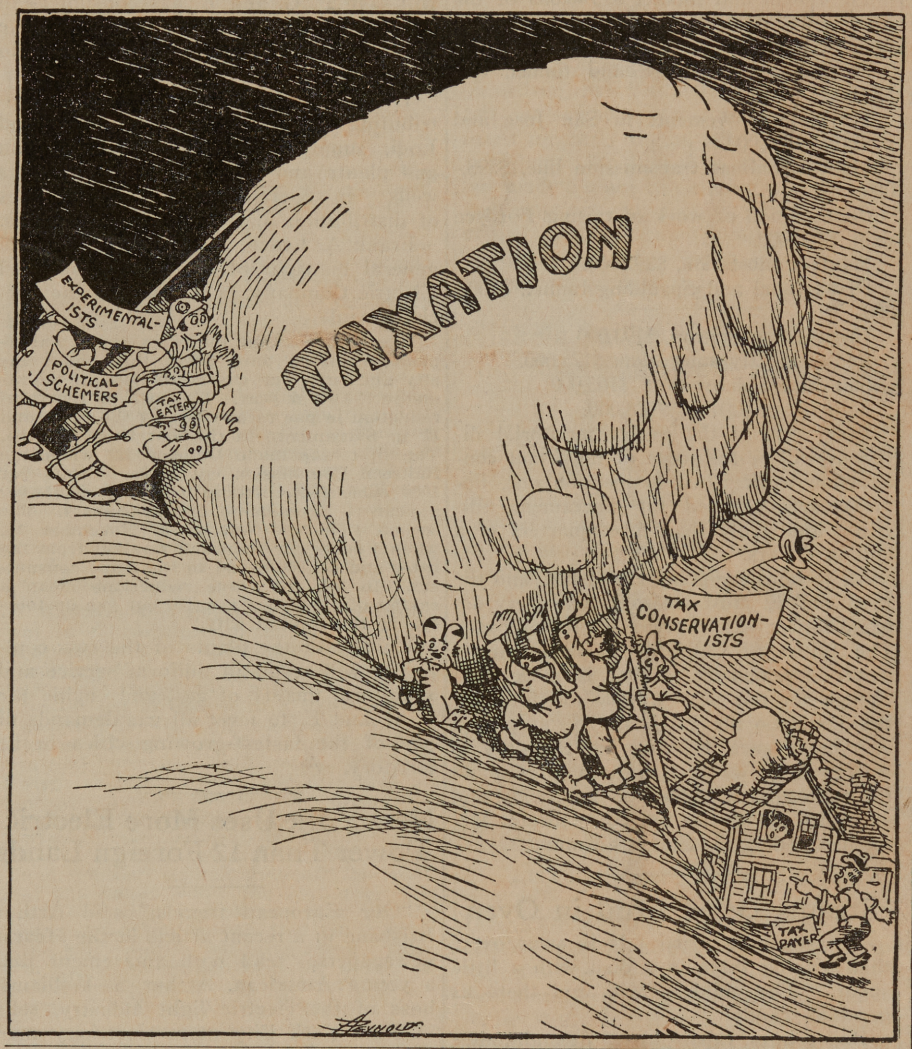
"It's an Uphill Push Against Odds"

(Reynolds in Portland Oregonian)



Electric Winder Ends Job Of Cranking Trinity Clock

For seventy-eight years Wall street has been taking its time from the old-fashioned clock in the tower of Trinity Church. One day not many weeks ago the clock stopped, and inquiring brokers learned that their favorite timepiece was to be old-fashioned no more. Time was to pause long enough to permit installation of an electric winding system. Under the old hand-run method it took more than three hours to wind the clock. The electric system operates automatically, and nobody has to climb the tower to "crank" the clock.

Efficiency Record Broken

Official acceptance tests of the big turbines at Pit 3 showed a maximum efficiency of 93 per cent. That is the highest efficiency ever obtained in a turbine of this size and head.

Lends Helping Hand

P. G. and E. Aids S. F. Firemen When Building Collapses

A San Francisco building collapsed on December 15 and buried four men in the ruins. Firemen, who found their efforts to recover the bodies hampered by portions of heavy brick walls, called on the Pacific Gas and Electric Company for aid.

Edward T. Floyd, local superintendent of gas distribution, responded with a dozen men, two air compressors and six air guns. While the P. G. and E. men were still busy boring holes in the walls so the firemen could get the bodies out the acetylene lights began to fail and an appeal was made to the company to provide flood-lights. The company did not have the needed flood-lights, but it borrowed a pair from Charles J. Holzmueller, dealer in theatrical appliances. Then a gang of linemen working under the direction of A. J. Theis, the company's local overhead electrical superintendent, speedily strung a wire from a point half a block away. Soon the ruins were lit up as brightly as if it were noonday, and the firemen were able to rush their work to completion.

Among the injured in the accident was Patrick O'Shea, company employee, who was putting in an electric installation in the rear of the building that collapsed. He was caught in a pile of loose brick and broken timbers, and the firemen had to use a saw to set him free.

New York State Sells Power Output to Utility Company

New York State has decided to sell the output of its electric power plant at Vischers Ferry to a public service company. When the State converted the Mohawk river into a barge canal it built a dam at Vischers Ferry, about eight miles below Schenectady, and erected a power plant. Instead of going into the retail business the State called for bids for the power and will sell the entire output to the Adirondack Power and Light Corporation, which was the highest bidder. In New York this is called "a forward step in utilizing the power resources of the State."